

Appl. No.: 10/738,479
Amdt. dated 08/12/2005
Reply to Office action of March 15, 2005

Amendments to the Drawings:

The drawings were objected to in the Office Action as allegedly failing to show every feature of the invention specified in the claims. In response, FIGS. 1, 3, and 4 have been revised as suggested in the Office Action with arrows drawn in phantom to show the various air flows. As such, the Applicants request withdrawal of these objections.

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REMARKS/ARGUMENTS

The Applicants would initially like to acknowledge with appreciation the telephone interview granted to the undersigned by Examiner Rinehart on August 8, 2005. In light of the interview and the following remarks, reexamination and reconsideration of this application, withdrawal of the rejections, and formal notification of the allowability of all claims as presented are earnestly solicited. As detailed in the Office Action mailed March 15, 2005, Claims 1-27 are pending and have been rejected. In response to the Office Action, Claims 1, 11-13, and 23 have been amended to further clarify the subject matter being claimed. The amendment to the claims find support throughout the Specification and the Drawings and no new matter has been added. Accordingly, it is believed that the claims now define patentable subject matter over the prior art cited in the Office Action and notice to such effect is requested at the Examiner's earliest convenience.

Claim Rejections – 35 U.S.C. §112

Claim 23 was rejected in the Office Action as being indefinite. In response, Claim 23 has been amended to change the term "plane like" to "planar." Accordingly, the Applicants submit that this rejection is now moot and requests withdrawal of the same.

Claim Rejections – 35 U.S.C. §102

Claims 1, 2, 4, 5, 7-9, 11, 12, 16, 17, and 19-26 were rejected in the Office Action as being anticipated by International Patent Application WO 99/51813 to Veijola *et al.*

In response, Claims 1 and 11-13 have been amended to further clarify the subject matter being claimed. More particularly, Claim 1, upon which Claims 2, 4, 5, and 7-9 depend either directly or indirectly, has been amended to recite a method of blowing drying gas against a paper web with an impingement dryer. Such a method includes blowing the drying gas from a plurality of profiling chambers directly against the paper web, with each profiling chamber extending in a machine direction and wherein the profiling chambers are adjacently disposed in the cross-direction of a paper machine, such that each profiling chamber blows

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the drying gas to its own effective area of the paper web in the cross- direction of the paper machine. The drying gas blown against the paper web is then collected into a return air chamber via return air ducts in communication with the return air chamber and arranged between adjacent profiling chambers so as to separate the profiling chambers. The profiling chambers and the return air ducts are further arranged such that drying gas blown against the paper web from the profiling chambers is returned into the return air chamber through the return air ducts without the drying gas from one profiling chamber affecting the effective area of the adjacent profiling chamber.

Claim 11, upon which Claims 12, 16, 17, and 19-26 depend either directly or indirectly, has also been amended to indicate that an impingement dryer of a paper machine comprises a plurality of profiling chambers, wherein each profiling chamber extends in a machine direction and the profiling chambers are adjacently disposed in the cross-direction of the paper machine, and wherein each profiling chamber is arranged to blow drying gas directly against the paper web to its own effective area in the cross-machine direction of the paper machine and such that drying gas blown against the paper web is collected into a return air chamber through the return air ducts in communication therewith. The return air ducts are further arranged between adjacent profiling chambers so as to separate the profiling chambers, and the profiling chambers and the return air ducts are arranged such that drying gas blown against the paper web from the profiling chambers is returned into the return air chamber through the return air ducts without the drying gas from one profiling chamber affecting the effective area of the adjacent profiling chamber. In addition, Claims 12 and 13, which depend from Claim 11, have been amended to be consistent with Claims 2 and 3, now pending.

Such amendments find support throughout the Specification and the Figures such as, for example, Paragraphs [0027] and [0028] on Pages 7 and 8 of the Specification, as well as Paragraph [0032] on Page 9 of the Specification, and in Figures 1, 3, and 7. As such, no new matter has been added.

In contrast, the Veijola WO 99/51813 reference discloses a method and apparatus for controlling the temperature in the drying section of a paper machine using an impingement

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drying system 12. The system 12 includes a pair of hoods 14, 16. As particularly shown in FIG. 2, the hood 16 (also representing the hood 14) has air supplied thereto by a blower 54, 54' from a space 52 within the hood 16, whereby the air is supplied via a heater 56, 56', an equalizing chamber 58, and control louvers 60, 60', 60'', 60'''. From the control louvers 60, 60', 60'', 60''', the air enters the central 50, 50', 50'', 50''' and border 48, 48' hood blocks, and is then supplied to the paper web through nozzle boxes 62, 62', 62'', 62''', 70, 70'. A discharge air channel 74 extends in the machine cross direction (Page 14, lines 12-13) through the hood 16, so that this channel 74 removes a part of the moist drying air returning into the hood from between the cylinder and the hood. The channel 74 is mounted close to the nozzle box 62, whereby mainly moist returning air flows into the channel 74.

In this regard, the Applicants submit that the Veijola WO 99/51813 reference, particularly FIG. 2 thereof, shows the hood blocks 50, 50', 50'', 50''', 48, 48' serially disposed in the machine cross direction, with each hood block 50, 50', 50'', 50''' , 48, 48' extending in the machine direction (perpendicularly to the machine cross direction). However, the air flowing through the hood blocks 50, 50', 50'', 50''' , 48, 48' then flows into one or more nozzle boxes to be blown against the paper web through nozzles associated with the nozzle box(es), where each of the nozzle boxes extends in the machine cross-direction and the nozzle boxes are serially disposed in the machine direction. Elements 62, 62', 62'', 62''' , 70, 70' of FIG. 2 of the Veijola WO 99/51813 reference thus represent sectors of a single nozzle box extending in the machine cross direction. Further, the Veijola WO 99/51813 reference particularly states that a discharge air channel 74 extends in the machine cross direction (Page 14, lines 12-13), and thus perpendicularly to the hood blocks 50, 50', 50'', 50''' , 48, 48'. Accordingly, if the "air is returned . . . via . . . slits running between the nozzle boxes directly to different blocks, so that the air can be recirculated" (Page 8, lines 4-6), the nozzle boxes referenced by the Veijola WO 99/51813 reference must extend in the machine cross direction in order for the discharge air channel 74 to be disposed between nozzle boxes, as stated on Page 8, lines 4-6 of the Veijola WO 99/51813 reference.

Accordingly, the Veijola WO 99/51813 reference does not teach or suggest an impingement dryer of a paper machine comprising a plurality of profiling chambers, wherein

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each profiling chamber extends in a machine direction and the profiling chambers are adjacently disposed in the cross-direction of the paper machine, and wherein the return air ducts are arranged between adjacent profiling chambers so as to separate the profiling chambers, and wherein the profiling chambers and the return air ducts are arranged such that drying gas blown directly against the paper web from the profiling chambers is returned into the return air chamber through the return air ducts without the drying gas from one profiling chamber affecting the effective area of the adjacent profiling chamber, as now claimed in Claims 1 and 11 of the present invention. That is, the Veijola WO 99/51813 reference discusses nozzle boxes and a discharge air channel 74 that extend in the machine cross-direction and are adjacently disposed in the machine direction, wherein such an orientation of the nozzle boxes and discharge air channel 74 is perpendicular to the arrangement disclosed and claimed in the present invention. That is, Claims 1 and 11, as amended, recite that the profiling chambers extend in the machine direction and are adjacently disposed in the cross-machine direction. Since the running of the web in the machine direction would affect the dispersion of the drying air discharged from the nozzles of the nozzle boxes, the configuration suggested by the Veijola WO 99/51813 reference may allow air from an upstream nozzle box to be blown into the effective area of an adjacent downstream nozzle box due to the effect of the traveling web, since the nozzle boxes extend in the cross machine direction and are serially disposed in the machine direction.

As such, the Veijola WO 99/51813 reference does not teach or suggest an impingement drier having profiling chambers each extending in a machine direction, wherein the profiling chambers are adjacently disposed in the cross-direction of the paper machine such that return air ducts are arranged between adjacent profiling chambers separate the profiling chambers, and wherein the profiling chambers and the return air ducts are arranged such that drying gas blown directly against the paper web from the profiling chambers is returned into the return air chamber through the return air ducts without the drying gas from one profiling chamber affecting the effective area of the adjacent profiling chamber, as now claimed in Claims 1 and 11.

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As discussed in the telephone interview, the conclusions herein are further supported by the affidavit of Mr. Jarkko Veijola, attached to the previous response. For convenience, however, another copy of the Veijola affidavit is attached hereto. Mr. Veijola is one of the inventors of the subject matter of the Veijola WO 99/51813 reference, and his affidavit provides several annexes illustrating the subject matter of the Veijola WO 99/51813 reference consistently with such explanation provided herein and further supporting the identified distinctions of the Veijola WO 99/51813 reference with respect to the present invention, as now claimed and as presented in this response. Thus, in view of these differences between the Veijola WO 99/51813 reference and embodiments of the present invention as now claimed in Claims 1 and 11, the Applicants respectfully submit that amended Claims 1 and 11 are not anticipated by the Veijola WO 99/51813 reference. As such, Claims 1, 2, 4, 5, 7-9, 11, 12, 16, 17, and 19-26 are now patentable over the Veijola WO 99/51813 reference.

Claim Rejections – 35 U.S.C. §103

Claims 3, 6, 10, 13-15, 18, and 27 were rejected in the Office Action as being obvious over the Veijola WO 99/51813 reference.

As previously discussed, amended Claim 1, upon which Claims 3, 6, and 10 depend, and amended Claim 11, upon which Claims 13-15, 18, and 27 depend, are not anticipated by the Veijola WO 99/51813 reference. Thus, in response, the Applicants further submit that the present invention, as now claimed in Claims 3, 6, 10, 13-15, 18, and 27, is patentable over the Veijola WO 99/51813 reference. As such, the Applicants respectfully request withdrawal of these rejections.

Conclusion

In summary, the Veijola WO 99/51813 reference does not teach, suggest, or provide motivation for the embodiments of the present invention, as now claimed in Claims 1 and 11. Accordingly, in view of these differences between the Applicants' invention and the Veijola WO 99/51813 reference, it is submitted that the present invention, as defined by the pending claims,

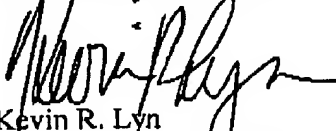
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is patentable over the prior art cited in the Office Action. As such, Claims 1-27 are believed to be in condition for immediate allowance.

In conclusion, for the reasons set forth above, the Applicants submit that all claims now pending are in condition for immediate allowance. Accordingly, notice to such effect is respectfully requested at the Examiner's earliest opportunity.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.


Respectfully submitted,

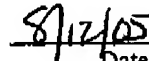

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